UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/083,372	02/27/2002	Tatsuoki Kohno	219995US0TTCRD	4786

22850 7590 03/17/2004

OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER	
WEINER, LAURA S	

ART UNIT	PAPER NUMBER
1745	

DATE MAILED: 03/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/083,372	KOHNO ET AL.	
	Examiner	Art Unit	
	Laura S Weiner	1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 February 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *2-27-02*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 7-8 and 10, 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Sekino et al. (2002/0164531).

Sekino et al. teaches on page 2, a secondary battery comprising a nonaqueous electrolyte comprising a nonaqueous solvent which contains ethylene carbonate (EC), propylene carbonate (PC), gamma-butyrolactone (BL) and a fourth component. Sekino

et al. teaches on page 20 [271], that « Crown » denotes 12-crown-4. Sekino et al. teaches on page 22, Table 7, that the nonaqueous solvent comprised EC, PC, BL and 1-2% by volume of Crown *[macromolecular material having the –(CH2-CH2-O)n formula where n≥1].* Sekino et al. teaches on page 6, [0079-0081], that the positive electrode comprises lithium manganese complex oxide, lithium-containing nickel oxide, etc. and teaches on page 6 [0091-0093], that the negative electrode contains a carbonaceous material capable of absorbing-desorbing lithium ions. Sekino et al. teaches on page 7, [0104-015], that the separator is substantially formed of a porous sheet.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-6, 9, 11-14 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Sekino et al. (2002/0164531).

Sekino et al. teaches on page 2, a secondary battery comprising a nonaqueous electrolyte comprising a nonaqueous solvent which contains ethylene carbonate (EC), propylene carbonate (PC), gamma-butyrolactone (BL) and a fourth component. Sekino et al. teaches on page 20 [271], that « Crown » denotes 12-crown-4. Sekino et al. teaches on page 22, Table 7, that the nonaqueous solvent comprised EC, PC, BL and 1-2% by volume of Crown *[macromolecular material having the –(CH2-CH2-O)n formula*

where n≥1]. Sekino et al. teaches on page 6, [0079-0081], that the positive electrode comprises lithium manganese complex oxide, lithium-containing nickel oxide, etc. and teaches on page 6 [0091-0093], that the negative electrode contains a carbonaceous material capable of absorbing-desorbing lithium ions. Sekino et al. teaches on page 7, [0104-015], that the separator is substantially formed of a porous sheet.

Since Sekino et al. teaches the same nonaqueous liquid electrolyte comprising the same macromolecular material, the same nonaqueous solvent and an electrolyte, then inherently the same electrolyte having a viscosity at 20 degrees C of 7 cP to 30,000 cP or 50 cP to 10, 000 cP at a shear rate of 20 s-1 or 7 cP to 10, 000 cP at a shear rate of 20 s-1 or a fluid which exhibits non-Newtonian properties or a fluid whose apparent viscosity at 20 degrees C decreases with the increase of the shear rate or the macromolecular material has a ratio of ion conductivity to viscosity at 20 degrees C is < 0.1 must also be obtained.

In addition, the presently claimed property of electrolyte having a viscosity at 20 degrees C of 7 cP to 30,000 cP or 50 cP to 10, 000 cP at a shear rate of 20 s-1 or 7 cP to 10, 000 cP at a shear rate of 20 s-1 or a fluid which exhibits non-Newtonian properties or a fluid whose apparent viscosity at 20 degrees C decreases with the increase of the shear rate or the macromolecular material has a ratio of ion conductivity to viscosity at 20 degrees C is < 0.1 would have obviously have been present once the Sekino et al. product is provided. *In re Best, 195 USPQ 433 (CCPA 1977).*

4. Claims 1-5, 11-12 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Skotheim et al. (6,482,545).

Skotheim et al. teaches in column 4, lines 25-65, a nonaqueous battery comprising an electrolyte having a viscosity and an internal resistivity, the electrolyte comprising one or more solvents; one or more ionic salts and multifunctional monomer comprising two or more unsaturated aliphatic reactive moieties per molecule. The multifunctional monomer is a multifunctional divinyl ether monomer (see column 9, lines 49-57). Skotheim et al. teaches in column 5, lines 13-19, that the multifunctional monomers are present in the range of 0.01 :1 to 0.25 :1. Skotheim et al. teaches in column 6, lines 43-65, that the cell comprises a cathode, a negative electrode and a nonaqueous electrolyte between. Skotheim et al. teaches in column 31, lines 29-31, that the electrolyte comprises a porous separator.

Since Skotheim et al. et al. teaches the same nonaqueous liquid electrolyte comprising the same macromolecular material, a nonaqueous solvent and an electrolyte, then inherently the same electrolyte having a viscosity at 20 degrees C of 7 cP to 30,000 cP or 50 cP to 10, 000 cP at a shear rate of 20 s-1 or 7 cP to 10, 000 cP at a shear rate of 20 s-1 or a fluid which exhibits non-Newtonian properties or a fluid whose apparent viscosity at 20 degrees C decreases with the increase of the shear rate must also be obtained.

In addition, the presently claimed property of electrolyte having a viscosity at 20 degrees C of 7 cP to 30,000 cP or 50 cP to 10, 000 cP at a shear rate of 20 s-1 or 7 cP to 10, 000 cP at a shear rate of 20 s-1 or a fluid which exhibits non-Newtonian

properties or a fluid whose apparent viscosity at 20 degrees C decreases with the increase of the shear rate would have obviously have been present once the Skotheim et al. product is provided. *In re Best, 195 USPQ 433 (CCPA 1977).*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura S Weiner whose telephone number is 571-272-1294. The examiner can normally be reached on M-F (6:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Laura S Weiner
Primary Examiner
Art Unit 1745

March 11, 2004